Environmental Health Perspectives
Vol. 11, p. 225, 1975

Commentary

Regulatory Aspects and Research Needs

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This conference has underscored the many gaps in our understanding of the behavior of vinyl chloride and the inadequacies of current research efforts to improve the data base which supports the regulatory decisions that must be made now. In addition to the need for much better information on the human health effects of exposures to low levels of vinyl chloride, we know relatively little about the persistence of vinyl chloride in air and water and the degradation products associated with this chemical, the ecological effects of vinyl chloride, particularly as it interacts with aquatic organisms, and the rates of migration of unreacted vinyl chloride monomer from products containing PVC during their use and disposal.

Perhaps, even more importantly the conference has highlighted what many environmentalists are calling the "tip of the iceberg"—an iceberg of chemical problems that will continue to float to the surface during the decades ahead. For example, the array of hundreds of chemicals added to plastics that was shown here clearly illustrated the complexity of the task of the researcher in attempting to provide an early warning of future problems.

It certainly appears that, except for continuing concern over spills and accidents, government and industry have been rather complacent with regard to the potential environmental threat from the high volume industrial chemicals. This complacency is in large measure attributable to the relative absence of visible and uncontrolled dangers from exposure to the chemicals during their long histories. In addition, since many of these chemicals are manufactured by a number of companies, firms may lack incentive to invest individual company resources to clarify the safety aspects of their usage. Clearly, the experience with vinyl chloride—the twenty-second leading chemical in terms of production—underscores the problems that can result from such complacency. Despite the continuing commercial importance of these high volume chemicals, it cannot be assumed that adequate research, testing, and related safety measures will be taken by industry, and vigorous governmental leadership in this area seems essential.

The most immediate task confronting us all is how to organize the limited resources—and I refer principally to dedicated scientific talent—of government and industry to sort out the areas requiring the most urgent attention. Should the Toxic Substances Control Act be enacted, the Federal Government will have a new responsibility of particular importance to the prioritization of these efforts. Hopefully, such a legislative mandate can provide the impetus for more concerted efforts toward early recognition and correction of potentially serious chemical problems.

This conference has been a useful first step toward imparting a sense of direction for addressing the many unknown aspects of the plastics industry. It certainly has helped clarify the dimensions of the problem. Clearly industry must play a key role in monitoring, testing, and, where appropriate, restraint—for in many cases only the manufacturer of the chemicals is in a position to suspect the likelihood of hidden hazards associated with his products.

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